

IN THE CLAIMS

Please amend the claims as follows:

1. – 26. (Canceled)

27. (New) A method, comprising:

receiving from multiple stations a plurality of uplinked spatial division multiple access (SDMA) data streams that are out of synchronism by a time period greater than an allowed guard band time period;

converting the plurality of SDMA data streams from a first time domain to a frequency domain;

separating the plurality of SDMA data streams into a separated plurality of data streams in the frequency domain;

converting the separated plurality of data streams from the frequency domain to a second time domain; and

synchronizing the separated plurality of data streams in the second time domain.

28. (New) The method of claim 27, wherein the receiving comprises:

receiving at least some of the plurality of SDMA data streams as data streams that include a plurality of non-aligned orthogonal frequency division multiplexed symbols.

29. (New) The method of claim 27, wherein the receiving comprises:

receiving the plurality of SDMA data streams in response to a polling communication.

30. (New) The method of claim 29, wherein the polling communication comprises multiple polling messages overlapping in time and corresponding in number to the multiple stations.

31. (New) The method of claim 27, wherein the separating comprises:

separating the plurality of SDMA data streams using a channel matrix.

32. (New) The method of claim 27, wherein the separating comprises:
separating the plurality of SDMA data streams into the separated plurality of data streams using a frequency spatial demapper.

33. (New) The method of claim 27, wherein the separating comprises:
separating the plurality of SDMA data streams into a separated plurality of data streams, wherein at least some of the separated plurality of data streams have different frequency offsets.

34. (New) The method of claim 27, wherein a number of the separated plurality of data streams correspond to a like number of wireless channels.

35. (New) An article comprising a memory having instructions stored thereon, wherein the instructions, when executed, cause the processor to perform:
converting a plurality of spatial division multiple access (SDMA) data streams from a first time domain to a frequency domain after the plurality of SDMA data streams have been received as a plurality of uplinked SDMA data streams that are out of synchronism by a time period greater than an allowed guard band time period;
separating the plurality of SDMA data streams into a separated plurality of data streams in the frequency domain;
converting the separated plurality of data streams from the frequency domain to a second time domain; and
synchronizing the separated plurality of data streams in the second time domain.

36. (New) The article of claim 35, wherein the separating comprises:
separating the plurality of SDMA data streams at a wireless access point.

37. (New) The article of claim 35, wherein the instructions, when executed, cause the processor to perform:

computing a frequency response for a plurality of channels corresponding in number to a number of the plurality of SDMA data streams.

38. (New) The article of claim 35, wherein the synchronizing comprises:
synchronizing at least one of the separated plurality of data streams after detecting a boundary between preambles.

39. (New) The article of claim 35, wherein the instructions, when executed, cause the processor to perform:

estimating a coarse frequency offset between receiver and transmitter oscillator clocks.

40. (New) An apparatus, including:
a separation module to separate a plurality of spatial division multiple access (SDMA) data streams into a plurality of separated data streams, in a frequency domain, after the plurality of SDMA data streams have been converted from a first time domain to the frequency domain, wherein the plurality of SDMA data streams have been received as a plurality of uplinked SDMA data streams that are out of synchronism by a time period greater than an allowed guard band time period; and
a synchronization module to synchronize the separated plurality of data streams in a second time domain after the separated plurality of data streams have been converted from the frequency domain to the second time domain.

41. (New) The apparatus of claim 40, wherein the separation module comprises:
a spatial demultiplexer to provide the separated plurality of data streams.

42. (New) The apparatus of claim 40, wherein the separation module comprises:
a module to perform a fast Fourier transform on the plurality of SDMA data streams.

43. (New) The apparatus of claim 40, wherein the separation module comprises:

a module to perform an inverse fast Fourier transform on at least one of the separated plurality of data streams.

44. (New) A system, comprising:

a separation module to separate a plurality of spatial division multiple access (SDMA) data streams into a plurality of separated data streams, in a frequency domain, after the plurality of SDMA data streams have been converted from a first time domain to the frequency domain, wherein the plurality of SDMA data streams have been received as a plurality of uplinked SDMA data streams that are out of synchronism by a time period greater than an allowed guard band time period;

a synchronization module to synchronize the separated plurality of data streams in a second time domain after the separated plurality of data streams have been converted from the frequency domain to the second time domain; and

a wireless access point coupled to a plurality of antennas to receive the plurality of SDMA data streams.

45. (New) The system of claim 44, further comprising:

a processor to form a $Q \times P$ channel matrix, wherein the plurality of antennas comprises Q antennas, and wherein the plurality of SDMA data streams comprises P data streams.

46. (New) The system of claim 44, wherein the wireless access point is to train at least one channel for at least some of a plurality of stations associated with the plurality of SDMA data streams.